

# Connections: Understanding and Treating Co-occurring Anger, Violence Trauma and Addiction

Cardwell C. Nuckols, PhD

## Description:

Knowledge of the brain and the awareness that addiction is a brain disease can open up new understandings of the chronically relapsing populations. This presentation will provide a neurological deficit perspective allowing participants to view cognitive, behavioral, and affective symptoms in a different light. For example, many disorders such as ADHD, Conduct Disorder, Oppositional Defiant Disorder, and Bi-Polar Disorder can be mimicked by disturbing frontal lobe functioning. By investigating trauma, neglect, alcohol and drug abuse and their effect on neurological function; new understandings, implications and treatment techniques are forthcoming.

## Outline:

1. Development of the Brain
  - a. Developed well
  - b. Developed poorly
2. Frontal Cortex
  - a. ADHD
  - b. Conduct Disorder
  - c. Oppositional Defiant Disorder
  - d. Bi-Polar Disorder
  - e. Treatment implications
3. Impact of Trauma
  - a. Physiology
  - b. Self and Identity
  - c. Consciousness
  - d. Treatment implications
4. Impact of Alcohol and Drugs on the Brain

- a. Impact on frontal lobe functioning and impulsivity
- b. Treatment implications

#### Objectives:

Upon completion of this presentation the participant will be able to:

1. Understand the role of the frontal cortex from a developmental perspective.
2. Understand the impact of trauma and addiction on frontal lobe functioning.
3. Discuss from a neurological perspective the signs and symptoms typically seen when the frontal cortex is immature or damaged.
4. Discuss how this new research impacts treatment effectiveness.

#### Audio/ Visual Requirements:

1. Projector for PowerPoint presentation
2. Lapel or cordless mic
3. Writing surface-whiteboard or easel

#### Bibliography:

**Glover, Janikowski and Benshoff. "The Incidence of Incest Histories Among Clients Receiving Substance Abuse Treatment". Journal of Counseling and Development. March/April 1995.**

**Van der kolk, van der Hart, and Burbridge. "Approaches to the Treatment of PTSD". Trauma Clinic, Harvard Medical School.**

**Wolf, Tom. "Hooking Up". Farrar, Straus and Giroux, , New York, 2000.**

**Pincus, Jonathan. "Base Instincts". W.W.Norton, New York, 2001.**

**Kent, Sullivan and Rauch. "The Neurobiology of Fear". Psychiatric Annals. Volume 310, No 12, 2000.**

**Thimble. "Psychopathology of Frontal Lobe Syndromes". Seminars In Neurology. Vol10, No3, 1990.**

# Connections: Understanding Co-occurring Anger, Rage, Trauma and Addiction

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# Exposed Negative

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- Developed well
  - Nurture
  - "Love bath"
- Developed poorly
  - Abused
  - Neglected

# Developed Poorly

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"What if the tears of an infant are totally ignored, if his signals for help are consistently misread or disregarded, if his mother punishes his persistent crying by striking him, slapping him with a belt, or burning him with a cigarette. If his cries of pain and rage are ignored or precipitate more punishment, the child will learn not to cry." J H Pincus



# Developed Poorly

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- Lack of predictable sense of self
- Poor sense of separateness
- Disturbed body image
- Poorly modulated affect and impulse control including aggression against self and others
- Uncertain as to reliability of others

# Interactional Model

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"The biology of the brain is not shaped only by genetic influences. What the brain registers through its sensory systems about the surrounding environment is increasingly recognized as a critical factor that permanently changes the brain by altering the connections." J H Pincus

# Why Is a Young Brain Susceptible?

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- Posterior Cortex
  - Developed at birth
- Frontal Cortex
  - Fully developed by 20 years of age



# Posterior Cortical Functions

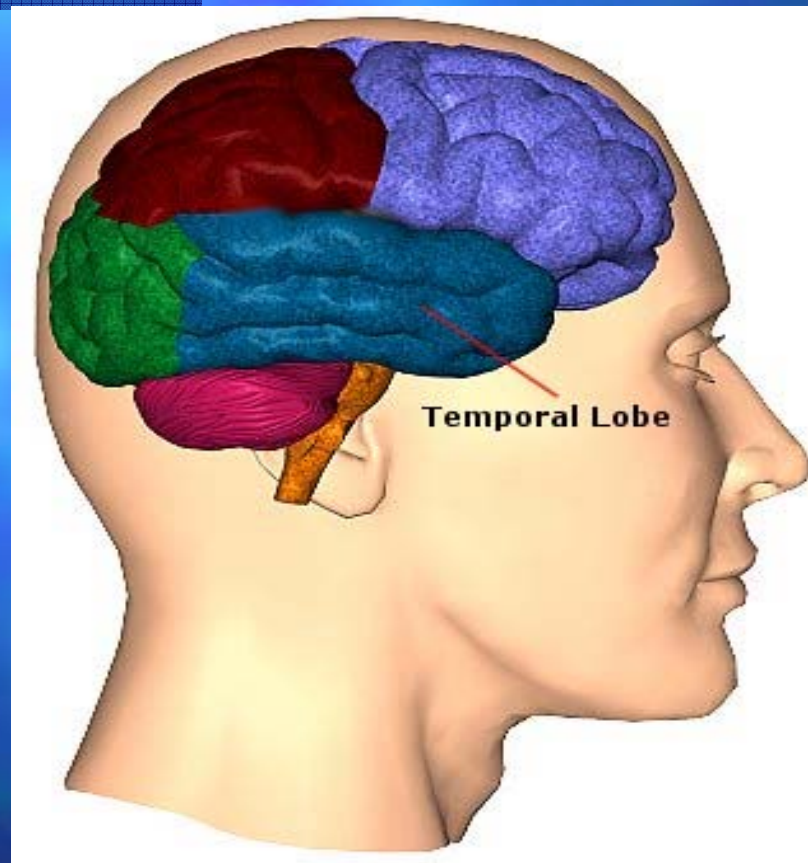
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- IQ
- Reading
- Writing
- Arithmetic

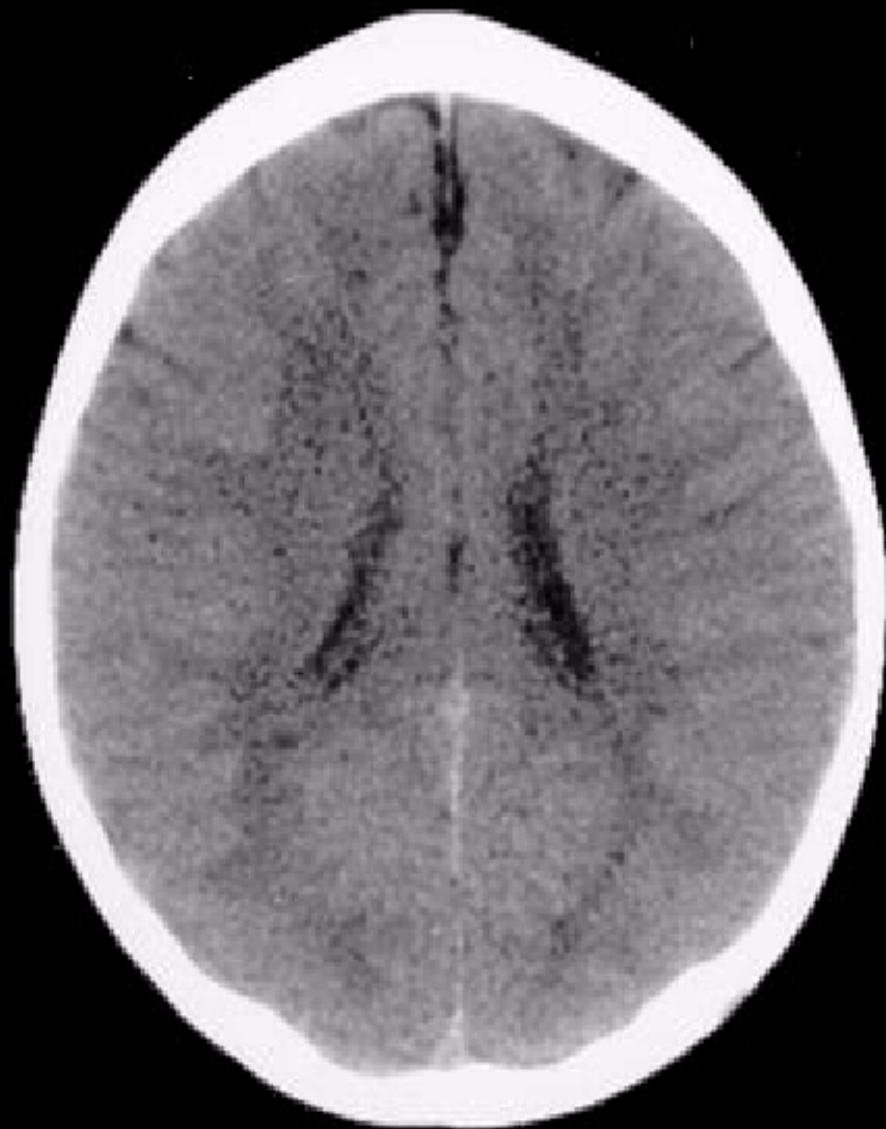
# Frontal (Executive) Cortical Functions

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- Focus attention
- Prioritize
- Exclude extraneous information
- Suppress primitive urges
- Reduce impulsivity



# 3 Year Old Children



Normal



Extreme Neglect



# Primary School Child With Frontal Dysfunction

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- Short attention span
- Responds to irrelevant stimuli
- Hyperactive
- Physically and socially awkward
- Temper and impatience
- Inability to understand impact on others
- Unconcern regarding adverse impressions
- Defiant
- Aggressive
- Impulsive



# Looks Like...

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- Conduct Disorder
- ADHD
- Affective disorders
  - Mania
  - Depression
- Oppositional Defiant Disorder
- Posttraumatic Stress Disorder (PTSD)

# Diagnosing Complex PTSD

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- Impaired affect regulation
- Impulsive behavior
  - Drug abuse
  - Eating disorders
  - Para-suicidal and suicidal behavior
- Dissociation
- Somatization

# Diagnosing Complex PTSD

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- Fluctuating relationship with self
- Distorted relations with others
- Alterations in world view

# Complex PTSD

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- 4 or more DSM-IV comorbid conditions
- High likelihood of 1 or more personality disorders
  - 81% of BPD have trauma history(van der Kolk)

# Complex PTSD

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- Physiological changes
  - Cortisol
  - Norepinephrine
  - HTH-Pit-Adrenal Axis
  - Endogenous opioids



# Mesolimbic Reward System

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- Drug enters the system (heroin)
- Attaches to specialized protein
  - Mu opioid receptor
- Activates Ventral Tegmental Area (VTA)
- Nucleus Accumbens (NAc) releases dopamine
- Pleasure

# Non-Addict Response

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- "This is dangerous"
- Prefrontal cortex
  - Sends inhibitory signals to VTA
  - Reduces dopamine release
- No repetitive use pattern
- No reinforcement of pleasure

# Addict Response Pattern

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- “Got to have more”
- Cognitive Deficit Model
  - Abnormalities in prefrontal cortex
    - Compromised ability to send inhibitory signal to VTA
- Chronic alcoholics have reduced GABA
  - Neurochemical used in the inhibitory process
- Meth and Coke may damage this brain loop
  - Frontostriatal loop

# Anger, Rage and Aggression

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- Learned coping/survival skill
- Symptom of psychiatric disorder
  - Bi-polar Disorder
  - Borderline Personality Disorder
  - Antisocial Personality Disorder
  - Post Traumatic Stress Disorder



# The Violent Client

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- History of
  - ADHD
  - Conduct Disorder (child-onset)
  - Oppositional Defiant Disorder
  - Dissociation
  - Bipolar Disorder



# The Extremely Violent Client

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- History of
  - Abuse
  - Psychiatric disorder
    - Paranoid type
  - Neurological deficit (Frontal)
    - Trauma related
  - Aggravated by alcohol/drugs

# Approaches

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- Prevention and early recognition
  - Community
  - Family
- Early diagnosis of childhood disorders
- Medications that work at the source of the problem
- Psychotherapies that blend knowledge of neurology with clinical technique

# Thank You

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Programs designed for prevention and early intervention can reduce abuse, teach skills, and lower alcohol/drug usage. Treatment after the fact is not as effective as prevention....a negative developed well.

# References

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- Glover, Janikowski and Benshoff. "The Incidence of Incest Histories Among Clients Receiving Substance Abuse Treatment". Journal of Counseling and Development. March/April 1995.
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# References

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- Kosten, TR and George, TP. "The Neurobiology of Opioid Dependence: Implications for Treatment". Science Practices and Perspectives. Vol1, No. 1:13-20, 2002.
- Behar, KL et al. "preliminary Evidence of Low Cortical GABA Levels in Localized 1H-MR Spectra of Alcohol-dependent and Hepatic Encephalopathy Patients". American Journal of Psychiatry. 156(6): 952-954.